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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,629	11/24/2003	Preston F. Crow	EMC-99-027DIVI	4258
24227	7590	01/10/2006	EXAMINER	
EMC CORPORATION			MAHMOUDI, HASSAN	
OFFICE OF THE GENERAL COUNSEL			ART UNIT	PAPER NUMBER
176 SOUTH STREET				2165
HOPKINTON, MA 01748			DATE MAILED: 01/10/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/720,629	CROW ET AL.	
	Examiner	Art Unit	
	Tony Mahmoudi	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 31 October 2005.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 16-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 21-28 is/are allowed.
- 6) Claim(s) 16 is/are rejected.
- 7) Claim(s) 17-20 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 November 2003 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Remarks

1. In response to communications filed on 31-October-2005, claim 26 is amended per applicant's request. Claims 16-28 are presently pending in the application, of which, claims 16, 21 and 26 are presented in independent form.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 16 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Pub. No. US: 2004/0133570 A1 of Soltis in view of US Patent No. 4,761,737 issued to Duvall et al. (hereinafter Duvall).

With respect to claim 16, Soltis teaches a memory storage system having devices organized in physical data blocks for physical storage of data and at least one processor including an operating system having an extent based file system for abstracting file names to the physical data blocks in the devices by assigning an inode to each file (abstract, figs. 1 & 2, sections 0010, 0026 and 0030); and

each inode adapted to store extents having a field to point to a logical volume at least two of the extent being direct extents indicating a logical volume containing data blocks (abstract, sections 0010, 0055, 0062, and 0079; also see sections 0126-0127).

Soltis teaches shared file system over a distributed network attaching storage devices from existing file system being in the Unix based operating system (section 0035) in the shared storage distributed file systems, which are required to map to the data blocks stored on the storage devices. The distributed file system consists of inode files, which contain a list of extents that address data blocks, and logical volume from the NAS devices partitioned into multiple segments for allocation and de-allocation file data (sections 0062, 0073 and 0076). Also Soltis teaches direct extents for addressing of the data and direct pointers in the NAS devices. Soltis does not clearly teach a first direct extent pointing to second data blocks in the data storage devices, the first direct extent indicating a different logical volume than a second direct extent.

However, Duvall teaches UNIX file system residing on mass storage devices including a plurality of sequence of blocks, which compose the file system as physical data blocks for the storage devices (col. 2, lines 46-61 and col. 4, lines 53-67) and system's processor or microprocessor (col. 3, lines 57-67 and col. 4, lines 28-41) and direct inode contains up to ten block of addresses and level of blocks (col. 2, lines 62-67 and col. 3, lines 1-6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Soltis with the teachings of Duvall, wherein the storage system for physical storage of data in the system provided therein (Soltis's figs 1& 2), would incorporate the use of direct extent and indirect extent pointing to the third data blocks storing a third direct extent, in the same conventional manner as described by Duvall (col. 2, lines 62-67 and col. 4, lines 53-67). The motivation being to have a multiple of storage devices having a plurality of UNIX based file systems for easing or more flexible for extending the data file and enabling to access the same copy of user data without the need for special operating systems.

Allowable Subject Matter

5. Claims 21-28 are allowed over the prior art made of record.

6. The following is a statement of reasons for allowance:

Independent claim 21 and its dependents (claims 22-25) were allowed in the previous Office Action (dated 27-July-2005.)

The prior art made of record does not teach or suggest “*inserting an indirect extent in an inode between the first and the second direct extents, the indirect extent pointing to a third physical data blocks; and writing at least one extent to the third physical data block, the at least one extent pointing to a fourth physical data block storing a segment of the file*”, as recited in the amended independent claim 26. Claims 27-28 are allowed as dependents of allowed independent claim 26.

7. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 18-20 are objected to as dependents of the objected to dependent claim 17.

Response to Arguments

8. Applicant's arguments filed on 31-October-2005 with respect to the rejected claims in view of the cited references have been fully considered but they are either moot in view of the examiner's citation of allowable subject matter in sections 5-7 above, or are not deemed persuasive:

In response to the applicant's arguments regarding claim 16 that, “Soltis does not teach or suggest any extent-based method for striping the data from a single file on a single system across logical volumes”, the arguments have been fully considered but are not deemed persuasive because “striping” the data from a single file “across logical volumes” are not recited in the rejected claim(s). Although the claims are interpreted in light of the

specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Needless to state that the specification of the instant application does not recite the above argued limitations either.

In response to the applicant's arguments that "nor does he show or suggest in any way that two direct extents in a single inode can be used to indicate different logical volumes from one another", the arguments have been fully considered but are not deemed persuasive. Soltis does teach "direct extents" in paragraphs 126-127 of his publication. The plural form of "extents" indicate that there are more than one direct "inode file extents stored on the NAS devices" (paragraph 126.)

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

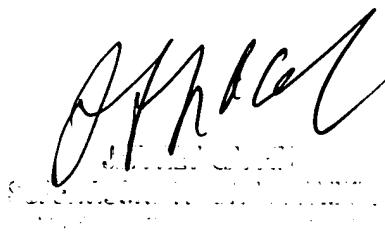
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Tony Mahmoudi whose telephone number is (571) 272-4078. The examiner can normally be reached on Mondays-Fridays from 08:00 am to 04:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin, can be reached at (571) 272-4146.

tm

January 7, 2006

A handwritten signature in black ink, appearing to read "T. Mahmoudi". Below the signature is a rectangular box containing the text "U.S. Patent and Trademark Office".